

Nature of Science Flint Water Crisis Argument

Due Dates:

- Presentation of Arguments (in class) on Wednesday, December 7th
- First Peer Review of Paper (in class) on Monday, December 12th
- Last Peer Review of Paper (in class) on Friday, December 16th
- Final Draft Due to your UofIBox folder by 11:59pm on December 21st

In social studies class you have been learning a great deal about the recent water crisis in Flint, Michigan. In this assignment, I ask you to use your argumentation skills to answer questions related to this crisis. This will be more difficult than the arguments you have developed previously in science, because in order to fully answer the questions you will need to draw on legal and moral/ethical frameworks, in addition to science.

We will continue to use the Claim-Evidence-Reasoning framework to build our arguments. Remember that your **claim is your answer to the question asked**. A good claim should completely answer the question. Your **evidence includes relevant facts that are necessary and sufficient to support your claim**. Your **reasoning explains why the evidence matters or how it connects to the claim**. You will need to specify the premises upon which this connection can be made. Remember that **a premise is not a fact, but is more like a claim that we can reasonably expect all readers to accept, so you don't need to defend it with evidence**. Your premises will differ depending on the type of argument you are making. In scientific arguments, your premises will be drawn from well-supported theories, laws, and principles in science and medicine. For example, in your seasons arguments you relied on the premise that "when light becomes more concentrated on an absorbing surface, it will heat up more quickly." For your legal arguments, your premises can be drawn from current, past, or proposed laws as well as court cases that provide legal precedent. For your moral arguments, you will need to draw on moral and ethical codes. In each case, your goal is to make an argument that is as strong as possible by providing appropriate and sufficient evidence together with reasoning based on sound premises that connect the evidence to your claim.

Each group will answer ONE of the questions below using an argument that employs all three types of reasoning: legal, moral/ethical, and scientific.

1. How did switching to the Flint River affect the water quality in Flint, Michigan households?
2. How was the health of Flint residents impacted by this switch?
3. Was what happened in Flint, Michigan illegal?
4. Who is to blame for what happened?
5. What does having clean water mean to the people of Flint?
6. How has this crisis impacted the lives of Flint residents?

Instructions:

1. Develop an overall claim that broadly answers the question (e.g. in answering question 1 you may say that switching to the Flint River significantly worsened the quality of the water). This is your **conclusion**.
2. Develop a claim for each of your three different arguments, scientific, moral/ethical, and legal. Each claim should express the type of argument you will be making in that the claim can only be defended by reasoning specific to that type of argument (e.g. for a legal claim in response to question 1 you might say, "Switching to the Flint River worsened the water quality by introducing pollutants well beyond the legal limit").
3. Identify appropriate evidence for each of your three claims. In principle, you can never have too much evidence, however a good argument is concise and so you will want to restrict your evidence to less than three items per claim. You must use the February 2016 *Time Magazine* article, "The Toxic Tap", in addition to other resources obtained from your work in Social Studies. You must cite the source of each piece of evidence using in-text parenthetical citation (MLA style).
4. Identify at least one premise that you can use to develop your reasoning. Appropriate places to find such premises are listed below:
 - a. [Public Health Emergency website](#) (specific information regarding the problems found in Flint)
 - b. [Basic Information about Lead in Drinking Water from the United States Environmental Protection Agency \(EPA\)](#)
 - c. [The United States Centers for Disease Control \(CDC\) Agency for Toxic Substances & Disease Registry](#) (this is useful for searching the health of effects of specific toxins in the body).
 - d. The [World Health Organization \(WHO\)](#) website
 - e. The United States [Safe Drinking Water Act](#) and [Lead and Copper Rule](#)
 - f. The [United Nations' Universal Declaration of Human Rights](#)
 - g. Other moral codes developed by religious, civic, or other institutions common in Michigan, African-American communities, small Midwestern towns, etc.

Presentations In Class on Wednesday, December 7th:

Create a Power Point to present your argument to the class. You should include the question you have chosen to answer, the specific claims that are integral to your three arguments (scientific, legal, moral/ethical), the evidence that supports each claim, the premises you will use in your reasoning, and your final conclusion. Starting with this Power Point, you should consistently cite (using MLA-style in-text parenthetical citations) the sources of any information, evidence, ideas or claims that you use in your work, and include a list of Works Cited at the end. Every member of your group must talk during the presentation. Be prepared to answer questions.

First Peer Review in Class on Monday, December 12th:

Use the outline from your Powerpoint Presentation to develop a 2-4 page paper that introduces the question/problem you were assigned and then addresses the problem from a scientific, legal, and moral/ethical perspective. The paper should use appropriate reasoning based on the premises you developed for your outline and should draw some final conclusions based on the different arguments you developed. Be prepared with four printed copies of a complete first draft of your paper (including in-text citations and a complete list of Works Cited) at the beginning of class on Monday, December 12th.

Last (or Second?) Peer Review in Class on Friday, December 16th:

Revise your paper using the feedback you received on December 12th. In addition to revising your original arguments, you will need to prepare a rebuttal to each one of your claims as well as a counterargument to that rebuttal. Be prepared with four printed copies of this expanded version of your paper at the beginning of class on Friday, December 16th. You will do a second round of peer review. You will use the feedback from this last (or second) peer-review session to revise and submit your **final paper to your UoflBox by the end of the regular finals period**. Each member of your group must submit this paper independently to their UoflBox folder.